

Welcome to Holmes Educational State Forest, a unique outdoors experience! Holmes is located in the Great Smokey Mountains, with rugged terrain, numerous rock outcroppings, and scenic vistas, it also offers a rich mixture of mountain hardwoods, rhododendron, flame azaleas, and a variety of wildflowers. These features are accessible by a series of well-marked trails which are accented by exhibits and displays depicting the ecology of the managed forest.

OUTDOOR EDUCATION

North Carolina's six Educational State Forests have been developed as living environmental education centers. These managed forests are designed to promote better understanding of the value of forests in our lives.

Ranger-conducted programs are available to groups visiting the Forest. Instructor activity packets and special study sites are also available to assist teachers or other group leaders in using the Forest as an outdoor classroom. Call the office to make arrangements.

PICNIC FACILITIES

Be sure to bring a picnic lunch with you. Picnic sites with tables and grills are available. A spacious picnic shelter with a massive stone fireplace is available for groups. Reservations for the shelter are required.



We have ongoing volunteer programs. Contact the forest office for additional information.

The FOREST at a glance-

Outdoor Education

Trails with "Talking Trees" and Exhibits

Picnic Facilities

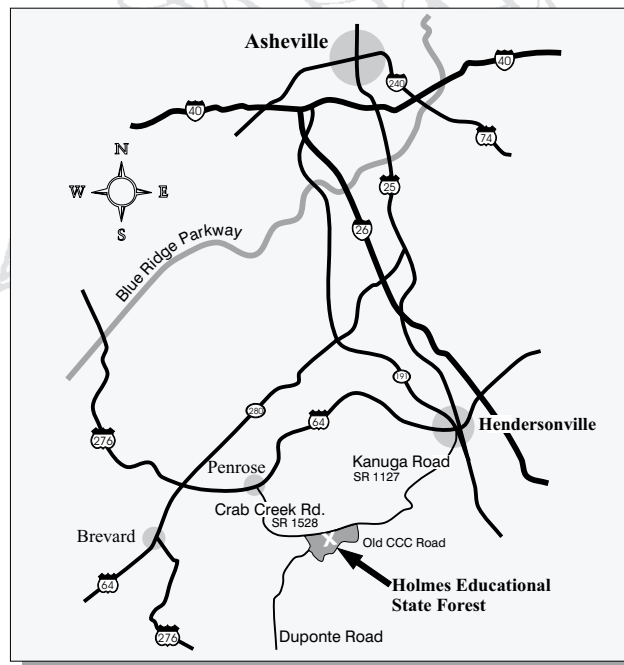
Ranger-Conducted Programs

Call the Office for information.

Camping

Walk-in Tent Camp Sites

Reservations Needed



Forest Season

Mid-March

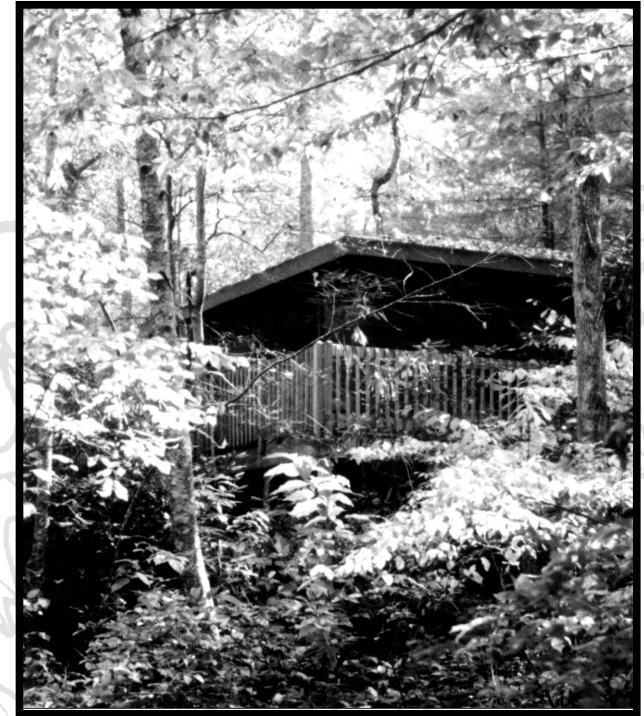
to

The Friday before Thanksgiving
(Closed Mondays)

Call the office for hours of operation.

Holmes

Educational State Forest



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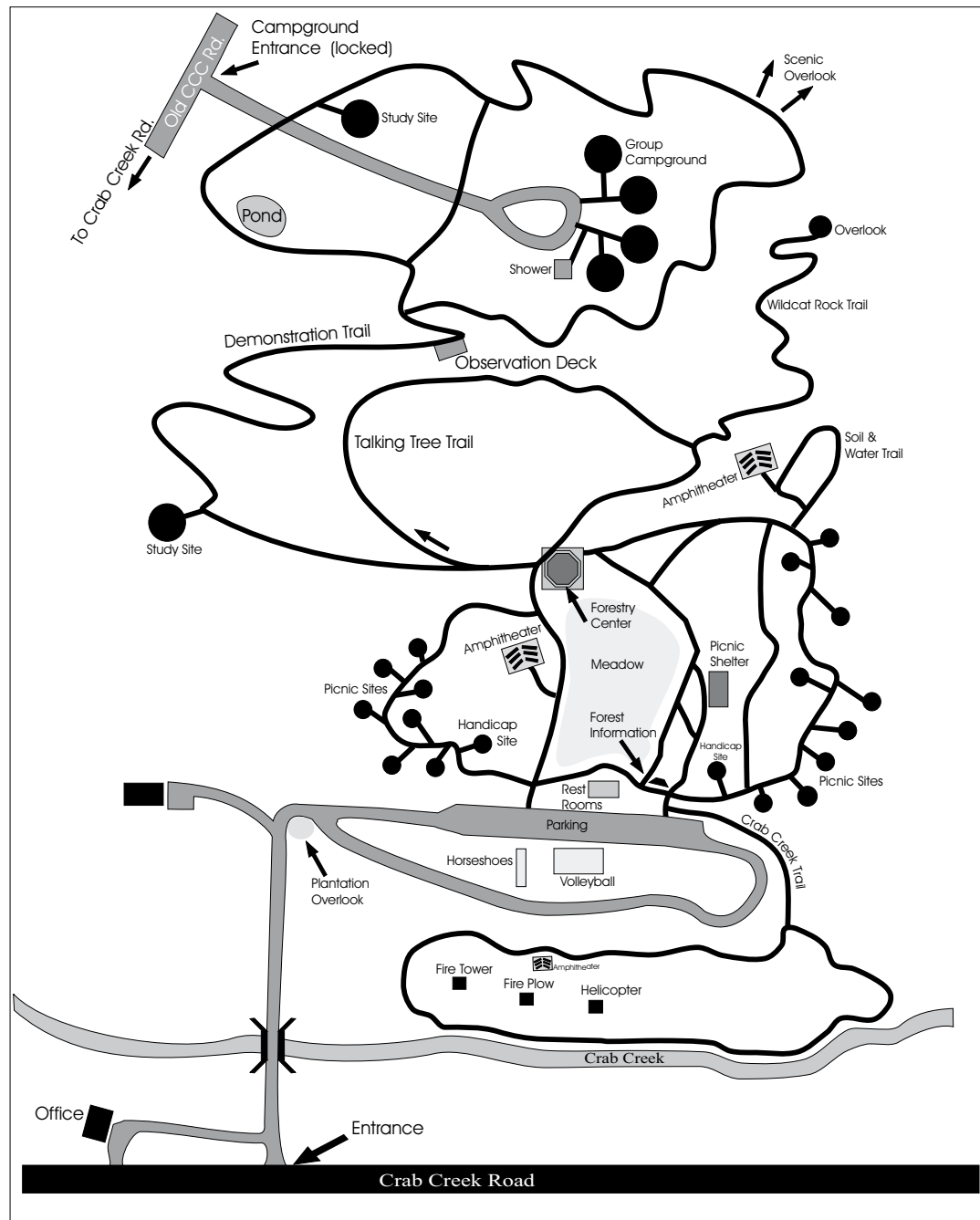
Holmes Educational State Forest
Route 4, Box 308
Hendersonville, N.C. 28739



Holmes Educational State Forest



At Holmes Educational State Forest, visitors can listen to the wind in the trees; or they can listen to the trees tell a story. The Talking Tree Trail features "talking trees", each with a recorded message about itself, its site, and the forest history. Actual forestry practices are explained on the Forest Demonstration Trail.



The Forestry Center houses audio-visual exhibits describing the managed forest and is used as the starting point for the Forest trails. A natural amphitheater is available for special sessions or groups.

For the hardy spirit, walk-in tent sites are available. The Rangers will be glad to reserve a site for your overnight stay.



STATION #1

Welcome to the Forest Demonstration Trail. This self-guided trail was developed to demonstrate and give new insights to Multiple Use Forest Management. Along this 3-mile trail you will find interpretive signs and displays to help you better understand our managed forests. The Demonstration Trail is a "Loop Trail" which will bring you back to the Forestry Center in about 2.5 hours. Proceed to Station #2, when you are ready, and enjoy your hike.

STATION #2

This portion of the trail ascends steeply for approximately 1/2 mile. There are several rest stations along the way with an observation deck at the ridge top. As you walk along notice the rich soil, healthy forest, wildflowers, and signs of wildlife activity. This mountainside was "selectively cut" in 1969. The logging and road construction was implemented with the protection of the water, soil, wildlife, timber, and aesthetic value in mind. This is what Multiple-Use Forest Management is all about. Had this work been done thoughtlessly with no regard for the environment, our forest would still be suffering from these practices today. Done properly, we still have trees for the future cooling and cleaning the air, providing homes and food for wildlife, enriching our soil, protecting our watersheds and providing us with a wonderful forest to enjoy.

STATION #3

Welcome to the Observation Deck! I know you are glad to see this place after that climb! You have just completed the most difficult section on this trail. This is an enjoyable place to rest and sit quietly, listen to the forest sounds and enjoy the woodland views.

Providing a safe and informative hiking trail is hard and time consuming work. Holmes Educational State Forest is extremely fortunate to have many energetic and dedicated volunteers helping with our trail system. The volunteers give their time and expertise so that our visitors may have a more enjoyable and meaningful forest experience. The Carolina Mountain Club and Pisgah Hikers have spent many hours constructing hand rails, repairing and constructing bridges and installing waterbars along this trail. Also, various Scouting groups have helped to clear brush, remove litter, paint buildings and exhibits, and plant wildlife food plots along the trailside. The Western Carolina Botanical Club is continually documenting the many forest flower species growing along our trails.

Enjoy the wildflowers, but please refrain from picking them so that others may also enjoy and learn about them.

Additional information about volunteer groups and the work they do, books and field manuals to help you identify things you have seen in the forest, are available at the Ranger Headquarters.

STATION #4

All wildlife species have different needs for food, shelter, range, and climate. An animal will only inhabit an area in which all of its needs are met. Wildlife Management works toward developing and protecting food, water, and shelter to meet the needs of all wildlife (including aquatic species). This food, water, and shelter is known as an ANIMALS HABITAT. There are many species of animals in this forest. More frequently seen are gray squirrels, cottontail rabbits, skunks, opossums, ruffed grouse, wild turkey, whitetail deer, foxes, hawks, crows, and scores of other bird species.

Food plots are established throughout this forest to provide cover and food for small animals and birds. To see wildlife one must remain very still and quiet in one place for, usually, at least 15 or 20 minutes.

Wildlife food plots are also good for erosion control, on areas such as spoil banks, logging roads, or any area where the soil is exposed. For more information concerning wildlife food plots, contact the Ranger Office.

STATION #5

As you left the logging road and came down the hill, you entered a pure stand of Eastern White Pine. These trees grow in the mountains and extreme upper Piedmont of North Carolina and northward through New England and the Great Lakes region. These trees commonly grow to heights of 100 feet and reach economic maturity in 50 to 60 years. The wood is used for furniture, house framing, siding, trim, and molding.

White Pine seeds make up a large portion of the winter diet of squirrels, chickadees and mice. Bluebirds also use the needles when building their nests.

Look closely at an Eastern White Pine near you. Notice how the branches grow in rings around the main stem. These limbs are called ANNUAL WHORLS because only one set of them grows each year. By counting the number of annual whorls, you can easily determine the age of an Eastern White Pine. Once you count the number of whorls, add about 5 years to account for the time the tree was a seedling, and you have, thus, determined the age of the tree.

Try this method of determining the age of other Eastern White Pines in the forest. Remember, around here, this method of aging applies only to the Eastern White Pine.

STATION #6

Yellow Poplar, or Tulip Tree, distinguished by its excellent form and rapid growth, is one of the taller and more valuable trees. It is widely distributed throughout the United States. Yellow Poplar reaches a height of 80 to 100 feet. It has a straight trunk that is clear of limbs for much of its length. Indians and settlers made dugout canoes from them. Hence, one of Yellow Poplar's common names is "canoe tree."

A Yellow Poplar may live 250 years or more. Though called a Yellow Poplar because of its light colored wood, it is really a member of the Magnolia family. The scientific name is *Liriodendron Tulipifera* which means "Lilly Tree bearing tulips from its large green, yellow and orange colored flowers which appear in the Spring." Yellow Poplars grow ideally in moist soils, along streams, or in mountain coves. Notice these particular sites when you see these trees growing along the trail.

STATION #7

Ponds, whether natural or man-made, are teeming with life and are excellent places for learning and discovery. Many species of plants, animals, and insects live in or are directly influenced by the pond community. The health of the pond, the food chains, and the balances associated with it are all dependent on many interrelated factors, many of which can be upset by the careless activities of man. These variables include the water and oxygen and carbon dioxide content, water clarity, temperature, Ph level, and others. Direct or indirect manipulation of the pond environment which changes any of these factors, or destroys a section of the food chain can adversely effect all of the life found here.

Protecting our wetland areas and the life associated around them is an important duty of the Forest Manager. If time permits, sit quietly by the pond for a while and notice the variety of life that could easily be overlooked without careful observation.

STATION #8

Trees, just as people, can contract diseases and become sick. Trees are susceptible to many types of disease and insect attack. It is important for a Forest Manager to be able to recognize and react to these problems in the forest.

The disease infecting this White Pine plantation is called Annosus Root Rot. The disease has occurred in Europe for many years but has now become an important problem here in the United States. The disease spreads by airborne spores to freshly injured trees or recently cut stumps. It also spreads through root contact from one tree to another (somewhat similar to the way humans transmit cold germs). As the roots die, the tree loses its ability to support itself and eventually blows or falls over, as has happened to these trees. Any landowner in North Carolina who suspects disease or insect problems in his woodlands can contact the county N. C. Forest Service office for verification and recommended control measures.



STATION #9

Once a planted or natural stand of trees reaches pulpwood size it becomes necessary to consider thinning them out. Thinning means removing the poor quality trees to increase the diameter growth rate and development of the remaining trees by reducing competition and giving them more room to grow. In unthinned and crowded stands trees grow very slowly and the stand soon stagnates. Thinning insures optimum growth in the better quality trees.

The White Pine stand in front of you has been marked for thinning. Trees designated to be removed have been marked with yellow paint. The marks at eye level lets the cutter know which trees to remove. The mark at the stump line allows the Forest Manager to confirm that only the trees marked have been removed. Pulpwood marking is one of the many Forest Manager services that is provided by the N. C. Division of Forest Resources to private landowners. For more information, contact your local county Forest Ranger or one of the rangers at the Holmes Forest Headquarters.

STATION #10

Welcome to Station #10. Pulpwood and firewood is bought and sold by a unit of measure known as CORD. One cord of wood measures 4x4x8 feet, or 128 cubic feet of wood, bark, and air. The stack of wood before you is a measured cord. From this one cord of wood we could make 12 dining room tables, or 1,200 copies of the National Geographic magazine, or 942 1-pound text books.

Think of all the things in your home, school, church, or community made from wood or wood products. And, think of what our lives would be like without them. By the year 2000 world consumption of wood is expected to increase by 40%. At the same time our forest lands are declining by development and waste. This is why the N.C. Forest Service encourages landowners to properly manage their woodlands through Forest Management Assistance and Cost Share programs. Information on forest management assistance to landowners and ranger conducted programs on forest management are available from any Holmes Educational State Forest ranger.

STATION #11

A major responsibility of the N. C. Forest Service is to provide fire prevention and control to the woodlands of the state. Thousands of acres of forest land are needlessly burned each year. These fires not only burn future timber and recreational resources, but also have an effect on wildlife, soil, water, and air quality. Also, these forest fires threaten more homes each year in Western North Carolina as the mountain region becomes increasingly developed.

Fire has always occurred in nature, and in a sense is useful by creating openings in the once dense forest. Many plant and tree species depend on fire for regeneration. The number of naturally occurring fires is insignificant when compared the number of man caused fires. Most forest fires are unintentionally caused, and are generally the result of carelessness. Almost half of the wildfires in North Carolina are caused by debris burning. Always check with fire officials before you burn debris, and always be sure to stay with your fire until it is totally burned out.

When forest fires strike, everyone loses. Remember what Smokey Bear has said for years--ONLY YOU CAN PREVENT FOREST FIRES.



STATION #12

Research is an integral part of forest management. The Yellow Poplar stand in front of you is one of many research plots planted by the U. S. Forest Service Southeastern Forest Experiment station in Asheville, N. C. These trees were planted on an 8 x 8 foot spacing in 1962. At age 15, the stand was divided into six pairs of plots. One plot in each pair was THINNED while the other plot was left UNTHINNED. The tree diameter growth in each plot has been measured several times since then. The increase in diameter growth in the THINNED plots has been significant.

In 1985, all of the plots in the stand were thinned down to the same Basal Area, or stand density. The resulting growth during the next decade provided the researchers more information on the value of thinning Yellow Poplar stands as a forest management tool.

Studies such as the one observed here take years to conduct. Information gained from this and other studies across the region are necessary for the development of new forest management techniques which will enable foresters to grow better quality timber for the needs of the generations to come.

STATION #13

Welcome to Station #13. This is the last station on our self-guided tour. As you walk the remainder of this loop trail, reflect on the importance of our natural resources, and why man and nature must work together to keep them healthy and productive. The North Carolina Forest Service is available to any North Carolina landowner with forestry problems, or management assistance.

Programs relating to Multiple-Use Forest Management are available to school and civic groups at Holmes Educational State Forest from March through November. The staff at Holmes Educational State Forest will be glad to provide additional information or answer questions you may have concerning these or related topics. Enjoy the rest of your walk, and please come back soon!

Demonstration Trail



Holmes Educational State Forest



Self-Guided Tour